

# Notice of Allowability

Application No.

10/783,263

Examiner

LaTanya Bibbins

Applicant(s)

CHAUHAN ET AL.

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 06 August 2007.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

WAYNE YOUNG  
SUPERVISORY PATENT EXAMINER

### **DETAILED ACTION**

1. In the remarks filed on August 6, 2007, submitted arguments for allowability of pending claims 1-20.

#### ***Terminal Disclaimer***

2. The terminal disclaimer submitted on January 16, 2008 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Patent Number 6,979,831 has been reviewed and is accepted. The terminal disclaimer has been recorded.

#### ***Allowable Subject Matter***

3. Claims 1-20 are allowed.
4. The following is an examiner's statement of reasons for allowance:

**Regarding claims 1-5**, none of the references of record, alone or in combination, suggest or fairly teach an electron beam substrate processing apparatus, comprising: a substrate processing chamber defined by sidewalls, a bottom, and a top; a spindle motor assembly moveably disposed within the substrate processing chamber; a spindle shaft extending from the spindle motor assembly toward the top; a substrate support member mounted to an end of the spindle shaft distal the spindle motor assembly; an encoder wheel coupled to the spindle shaft and positioned adjacent the substrate support member; an optical detector positioned in optical communication with the encoder wheel, the optical detector being configured to generate rotation data

signals in response to detected rotation of the encoder wheel; **a pattern generator circuit configured to generate an electron beam control signal in response to the rotation data signals, wherein the electron beam control signal frequency varies as a function of at least one processing radius and angular velocity associated thereto;** and an electron beam assembly responsive to the electron beam control signal, the electron beam assembly being disposed on the substrate processing chamber and configured to direct the electron beam onto a surface of the substrate for processing in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

**Regarding claims 6-12,** none of the references of record, alone or in combination, suggest or fairly teach a method of processing substrates with an electron beam processing system, comprising: rotating a substrate support member configured to hold the substrate thereon for processing; generating rotation data signals from one encoder assembly associated with a rotational movement of the substrate support member; **generating pattern clock signals from the rotation data signals that vary in frequency as a function of at least one processing radius and an angular velocity associated thereto;** and generating an electron beam processing pattern for writing a pattern on a surface of the substrate from at least some of the pattern clock signals, wherein the processing pattern varies in angular dimension as a function of the at least one processing radius in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

**Regarding claims 13-20**, none of the references of record, alone or in combination, suggest or fairly teach an apparatus for processing a substrate with electron beams, comprising: rotation means for rotating a substrate support member for processing the substrate thereon; signal generator means for generating a rotation clock signal from the axial rotation of the substrate; **means for generating a pattern clock signal from the axial rotation of the substrate that varies in frequency as a function of radial processing position and angular velocity of the substrate associated thereto**; and an electron beam generation means for processing the substrate with electron beams associated with the pattern clock signal in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. .

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571) 270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

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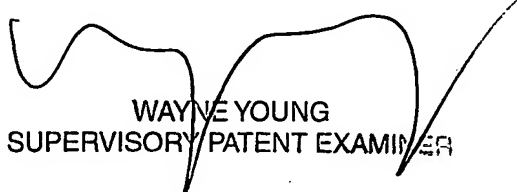
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



LaTanya Bibbins



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SUPERVISORY PATENT EXAMINER